

Exhibit H

Sierra Club – Oceana – Defenders of Wildlife - North Carolina Coastal Federation
The Ocean Conservancy - Legasea – Environmental Defense
Alaska Wilderness League - Florida Public Interest Research Group – Reef Relief
Alaska Oceans Program - World Wildlife Fund - Ocean Mammal Institute
Pacific Environment - Planning and Conservation League – Greenpeace
Earth Island Institute - U.S. Public Interest Research Group – Surfrider Foundation
KAHEA: The Hawaiian Environmental Alliance
Cook Inlet Keeper - Animal Welfare Institute – Seaflow - The Whalemans Foundation
Farallones Marine Sanctuary Association – Clean Ocean Action
Ocean Protection Coalition

April 7, 2006

5-Year Program Manager
Minerals Management Service (MS-4010)
381 Elden Street
Herndon, Virginia 20170

Re: Comments on the Draft Proposed Five-Year OCS Oil and Gas Leasing Program for 2007-2012 (DPP) and on the accompanying NEPA proceedings.

Dear 5-Year Program Manager:

On behalf of the millions of members represented by our organizations, we hereby submit these formal comments on the proposed Five-Year OCS Oil and Gas Leasing Program for 2007-2012 (DPP), and on the accompanying EIS. We appreciate this opportunity to provide comments on this proposal, as follows:

- 1) **Arbitrarily-Imposed “Seaward Boundary Lines” Cannot Govern Five-Year OCS Program Planning or Accompanying National Environmental Policy Act (NEPA) Documents:** The Five-Year OCS Oil and Gas Leasing Program for 2007-2012 cannot legally be based upon the final rule promulgated by the Secretary of Interior in Federal Register Notice Volume 71, No. 1, pages 127-131 titled “Federal Outer Continental Shelf (OCS) Administrative Boundaries Extending from the Submerged Lands Act Boundary Seaward to the Limit of the United States Outer Continental Shelf”. These arbitrary seaward boundaries are inequitable and have been previously rejected during consideration of the 2005 Energy Policy Act by the Congress and remain unacceptable to many coastal states. No proposed rule or ANPR was published, no public or state comments were accepted, and no due process was followed in adopting the final rule. This is in violation of the critical balancing provisions of the OCS Lands Act as Amended (OCSLAA). Further, these flawed seaward boundaries cannot be utilized by the Department of Interior to delineate the proposed boundaries of any MMS lease sale, any scheme for sharing of federal

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revenues from OCS activities, nor for any Coastal Zone Management Act (CZMA) or other jurisdictional authority to be exercised on behalf of any coastal state. Coastal states with sensitive coastal economies, fragile shoreline parklands, productive estuaries, and critical wildlife habitats now find themselves in the path of oil spill trajectories from offshore industrialization located off of adjacent states, over which their own state would have no authority. This is a denial of longstanding legitimate states' rights under the OCSLAA and the CZMA.

- 2) **Any Areas Protected by Congressional OCS Moratorium or Executive OCS Withdrawals Should Not Be Considered in the Five-Year OCS Leasing Program:** The congressional moratorium for fiscal year 2006 currently makes it clear that the use of appropriated funds for leasing, pre-leasing, and related activities is illegal, and the preparation of the Five-Year OCS Leasing Program should be considered to be part of such precluded activities. The new White House Budget released in January 2006 includes a proposed continuation of the OCS Moratorium for fiscal year 2007. Further, the Presidential OCS Withdrawals now in effect prevent any leasing in certain areas until after 2012, which is subsequent to the expiration of the proposed 2007-2012 Five-Year OCS Leasing Program. The draft Five-Year OCS Leasing Program inappropriately assumes in advance that the Presidential OCS Withdrawals will be prematurely rescinded within the North Aleutian OCS Planning Area (including Bristol Bay) and proposes two contingent lease sales there. The draft Five-Year OCS Leasing Program, further, inappropriately assumes in advance that both the Presidential OCS Withdrawals and the Congressional OCS Moratorium will be reversed, and further presumes the early conduct of new lease sales within long-protected waters in the mid-Atlantic OCS Planning Area and along the coast of Southeast Florida and on Florida's Gulf Coast and Panhandle. These protected geographic areas have no place in the current draft Five-Year OCS Leasing Program, and cannot be included in the Five-Year OCS Leasing Program under current federal law now in effect.
- 3) **All Congressional OCS Moratorium and Executive OCS Withdrawal Areas Should Be Granted Permanent Protection from Offshore Oil and Gas Leasing:** Since fiscal year 1982, annual legislative OCS Moratoria have been renewed each year with broad bipartisan support from the Congress and, during the current Administration and past Administrations, from the White House as well. It is time for the Department of Interior to recognize the sensitivity of coastal waters within the OCS Moratorium and the Presidential OCS Withdrawal areas and the bipartisan, bicameral, bicoastal legislative and public mandate for their continued protection, and to now grant permanent protection for these areas.
- 4) **Hazards of Proposed Airgun "Inventory":** Energy legislation signed into law during 2005 sets the stage for a geologic "inventory" of potential drilling targets on the entire OCS, including within sensitive coastal waters long protected by the bipartisan congressional OCS Moratorium and by the Executive OCS Withdrawals first enacted by former president George H.W. Bush in 1991. Proposed OCS "inventory" activities associated with this Five-Year OCS Leasing

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Program are now in substantial conflict with the designation documents and regulatory framework of most of America's National Marine Sanctuaries, which are charged by the National Marine Sanctuary Act with sustainable stewardship of the living marine resources and ecosystems within Sanctuary boundaries. No permits or contracts for seismic airgun "inventory" activities should be issued by the Department of Interior in any area prior to the completion and full consideration by MMS of the recent National Academy of Sciences study on the impacts of sound in the marine environment, the evaluation of the new National Science Foundation study on the impacts of geophysical activities in scientific research, and the consideration of all recent peer-reviewed international studies on damage to fisheries and marine mammals caused by airgun impacts. A comprehensive NEPA process, with a full EIS and requisite public review, must be completed prior to the issuance of any permit or regulations pursuant to the execution of any seismic "inventory" of the OCS.

- 5) **"Gas-Only-Leasing" Proposals are Inappropriate and Deceptive:** The Five-Year OCS Leasing Program should not presume the incorporation of so-called "natural-gas-only" leasing as a viable scenario. Exploration and development of gas resources produces routine discharges of spent drilling muds, contaminated produced waters, and highly-toxic metals and hydrocarbon compounds into the marine environment, in addition to creating a demand for onshore gas processing facilities in sensitive portions of the coastal zone. Spills of natural gas condensates are highly toxic to virtually all forms of marine life. Further, legislative and administrative proposals for what is being called "gas-only" drilling inappropriately incorporate provisions for the subsequent development of oil, should it be found in conjunction with gas on a "gas-only" OCS lease. Thus, what is being misrepresented as "gas-only" leasing simply opens the door for oil drilling, with its attendant risk of oil spills, and it is disingenuous to suggest otherwise in the Five-Year OCS Oil and Gas Leasing Program or in any MMS rulemaking or regulatory action.
- 6) **Eastern Gulf of Mexico OCS Concerns:** The Eastern Gulf of Mexico OCS Planning Area has long been protected as a way to preserve the very substantial coastal-dependent economy on Florida's Gulf Coast and Panhandle. The proposed Five-Year OCS Oil and Gas Leasing Program for 2007-2012 inappropriately suggests that a pre-existing Environmental Impact Statement (EIS), promulgated for a prior Lease Sale #181 proposal, could somehow be retroactively applied by MMS for a series of new leasing actions within the Sale #181 area. It is apparent that such a reuse of a prior EIS prepared for a different leasing proposal cannot be construed to adequately address the critical NEPA and related economic and environmental impact issues in play in this region. This "shortcut" approach fails to consider the cumulative impacts of a series of sequential leasing actions, of cumulative infrastructure requirements and impacts associated with increased leasing activity in multiple lease sales, and the cumulative routine and accidental discharges and air emissions associated with multiple lease sales generating multiple drilling operations. The proposed Five-

Year OCS Oil and Gas Leasing Program for 2007-2012 and accompanying documentation, and the prior Lease Sale #181 EIS, both fail to address the well-known "Loop Currents" in the Gulf of Mexico, and the propensity of these powerful ocean currents to rapidly transport any oil spill originating on Florida's Gulf Coast through the Florida Keys and onto the shores of Florida's Atlantic Coast. Further, the proposed Five-Year OCS Oil and Gas Leasing Program for 2007-2012 anticipates, for the first time, new OCS leasing in areas lying South of 26 degrees North Latitude, i.e.; off of Florida's Marco Island and the Ten Thousand Islands, in high-risk areas long protected by Congressional OCS Moratoria and Presidential OCS Withdrawals. The proposed Five-Year OCS Oil and Gas Leasing Program for 2007-2012 and accompanying EIS documentation provide nothing to indicate compliance with NEPA with respect to the special, and entirely new, range of issues associated with proposed leasing in these sensitive areas, nor with the anticipated implications for the Florida Keys National Marine Sanctuary.

7) **Alaska OCS Issues Unresolved:** We remain deeply concerned about the undue risks posed to sensitive marine and coastal environments from the proposed expansion of offshore oil and gas activities throughout the Alaska OCS. The nation's most productive and richest fishing grounds are found in Alaska, and the economies of coastal communities along the Gulf of Alaska, Cook Inlet, the Bering Sea, and the Beaufort and Chukchi Seas rely on commercial and subsistence fishing. Statewide in Alaska, the fishing industry provides more private sector jobs than any other source. Subsistence use of fish and other marine animals is both an established economy of Native coastal communities and is absolutely central to the survival of Alaska's indigenous cultures. Unlike oil and gas resources, the marine resources of the Alaska OCS can be expected to last indefinitely, and should therefore not be jeopardized by non-renewable resource development. Oil and gas activities endanger the fragile marine environment off the coast of Alaska. Productive marine ecosystems, marine mammals, seabirds, and coastal communities are all at risk from potential blowouts and pipeline oil spills. The recent British Petroleum "Caribou Crossing" terrestrial pipeline-derived oil spill, the largest among the numerous spills occurring throughout the history of North Slope operations, once again demonstrates that even state-of-the-art equipment is susceptible to accidental releases of oil, and that such releases are sometimes not quickly detected and remedied, even with the best monitoring and safety precautions. The new criminal investigation by the State of Alaska DEC of the 2003 Nabors Industries, Ltd./Pioneer Natural Resources drilling fluid spill provides further evidence of the risks associated with ice-island drilling near Kuparuk in the Beaufort Sea shallows and the apparent propensity of some operators not to report such incidents in a timely fashion. It has, unfortunately, also been conclusively and repeatedly demonstrated that no oil spill cleanup technology exists that can recover spilled oil among broken sea ice, and under the ice sheet, oil spills cannot even be detected or tracked. A range of unaddressed site-specific wildlife sensitivity issues and other economic and environmental concerns arise with regard to continued new leasing in Cook Inlet, and also in the

context of new OCS leasing proposed for the Gulf of Alaska, the Norton and Hope Basins, the Beaufort Sea, and in the Chuckchi Sea. The North Aleutian Basin, now protected by the Presidential OCS Withdrawals through June 30, 2012, is one of the most productive areas of the U.S. OCS and is valuable to the surrounding local communities for its abundant subsistence resources that sustain traditional cultures and ways of life. Several endangered species depend on the waters of Bristol Bay, including the northern Right whale. The region is surrounded by unparalleled estuaries critical to the region's ecological productivity and to sustaining the region's fisheries of national significance, including Pollock, cod, red king crab, herring, and the world's largest salmon run.

- 8) **Giveaway of Taxpayer-Owned Resources:** Past OCS "royalty relief" for deepwater natural gas deposits, and recent additional OCS "royalty relief" adopted for shallow water, deep-geologic-horizon, natural gas in the Gulf of Mexico, and for relatively shallow water oil and gas throughout the Alaska OCS, newly enacted as part of the Energy Policy Act of 2005, fails to meet the test of ensuring fair return for the U.S. taxpayer as required by the OCSLAA. The Five-Year OCS Oil and Gas Leasing Program cannot assume that these giveaways of our collective domestic resources, free of charge, to the petroleum industry will be permitted to continue unabated.

Thank you for this opportunity to provide comments on the proposed Five-Year OCS Oil and Gas Leasing Program for 2007-2012, and the accompanying EIS.

Sincerely,

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April 11, 2006

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381 Elen Street
Herndon, Virginia 20170

Re: Comments on the Draft Proposed Five-Year OCS Oil and Gas Leasing Program for 2007-2012

On behalf of the nearly 800,000 Sierra Club members across the country, the following formal comments on the proposed Five-Year OCS Oil and Gas Leasing Program for 2007-2012 are being submitted.

Sierra Club strongly supports permanent protection for our coastlines and marine environments. Our coasts provide essential habitat for fish and wildlife, a destination for thousands of vacationing families each year, and the economic lifeblood for thousands of tourism and fishing communities. The proposed five-year leasing plan would open up about two million acres of Lease Sale 181 in the Eastern Gulf of Mexico, an area previously off limits to new oil and gas drilling. This plan would also prepare for leasing areas off Virginia's coast and in Alaska's famous salmon fishing grounds in Bristol Bay. For 25 years drilling in these areas has been banned by both Congressional moratoria and Presidential deferral orders.

The Mineral Management Service should protect our sensitive coastal and marine waters by withdrawing the proposal to open up these new areas for drilling. Moreover, we want to see the areas currently protected by moratoria permanently protected. The new five-year leasing plan presumes that Congress is willing to lift the legislative moratorium that has long protected the mid-Atlantic coast, and assumes that President Bush will also be willing to rescind prematurely the 1991 Presidential OCS withdrawals first put in place by his father, former President George Herbert Walker Bush. However, on April 7, 2006 Governor Tim Kaine of Virginia rejected a plan to open up Virginia's coast to offshore drilling.

The MMS revision of their state "Seaward Boundary Lines," which was done arbitrarily and without public comment, moves the Eastern Gulf of Mexico OCS Planning Area much closer to Florida's Gulf Coast by renaming part of it "Central Gulf of Mexico Planning Area." No proposed rule published, no public or state comments were accepted, and no due process was followed in adopting the final rule. This change should be subject to public comment.

Opening the Eastern Gulf Planning Area (Lease Sale 181) for oil and gas drilling would rapidly make the gulf coast and the west coast of Florida the most intensively-leased region of all currently-protected OCS waters nationwide. The gulf coast includes protected public lands such as a National Seashore, state parks, beaches, wetlands, and other historical and natural sites. MMS should withdraw this proposal that threatens

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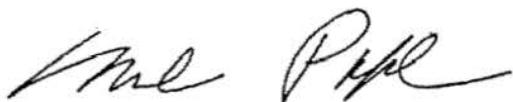
Florida's beaches, commercial and recreational fisheries, tourism, and wildlife such as dolphins, sea turtles and manatees.

The Five-Year OCS Leasing Program proposes opening the coast of Virginia in 2012 and Alaska's famous fishing grounds in Bristol Bay in 2010. Lease sales in the Mid-Atlantic off the Outer Banks of North Carolina during the 1980's resulted in complex and costly buybacks (repurchase of leases by the government). Ten years ago, Alaska bought back oil company drilling rights after an outcry that drilling could damage the state's most important salmon run. MMS should avoid a repeat of these needless, expensive, and wasteful buybacks by withdrawing these areas from consideration.

Instead of drilling off our coasts, America needs real energy solutions, fuel efficiency, renewable resources like solar power, policies that will help ensure our children are free from air and water pollution, and that our coastal economies are protected. Opening Lease Sale 181 in the Gulf of Mexico would yield approximately 47 days of oil and 4 months worth of natural gas -- just 6 trillion cubic feet according to the Minerals Management Service. For a country that currently consumes about 22 trillion cubic feet of natural gas each year, drilling offshore is not the answer. A combination of energy efficiency and renewables would lead to a 1% decrease in natural gas consumption in the first year and a 6.9% decrease by 2013.

Thank you for this opportunity to provide comments on the proposed Five-Year OCS Oil and Gas Leasing Program for 2007-2012, and the accompanying EIS.

Sincerely,



Carl Pope
Executive Director

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ALASKA CENTER FOR THE ENVIRONMENT, ALASKA COALITION,
ALASKA WILDERNESS LEAGUE, CENTER FOR BIOLOGICAL DIVERSITY,
COOK INLET KEEPER, EARTH ISLAND INSTITUTE, GREENPEACE,
NORTHERN ALASKA ENVIRONMENTAL CENTER, NATURAL RESOURCES
DEFENSE COUNCIL, PACIFIC ENVIRONMENT, REDOIL, SIERRA CLUB,
THE WILDERNESS SOCIETY, WORLD WILDLIFE FUND

November 20, 2006

Renee Orr
5-year Program Manager
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James F. Bennett
5-Year Draft EIS Comments
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Via Electronic Comments and First-Class Mail

CC

**RE: Comments on Draft Proposed 5-Year Program for 2007-2012 and 2007-2012
Oil and Gas Program Draft Environmental Impact Statement**

Dear Ms. Orr and Mr. Bennett:

Thank you for the opportunity to comment on the Outer Continental Shelf (OCS) Oil and Gas Leasing Program for 2007-2012 Draft Environmental Impact Statement (DEIS) and Proposed Program (PP). These comments are written on behalf of the groups listed above and their members in Alaska and nationwide, and they address both the PP and the DEIS.

The Interior Department's Proposed Plan for accelerated leasing in Alaska threaten America's sensitive marine and coastal ecosystems, and would impact subsistence resources and the local economies and communities. We request that MMS remove the North Aleutian Basin, the Chukchi and Beaufort Seas and the Lower Cook Inlet/ Shelikof Strait from the 5-Year plan.

Alaska's OCS waters host endangered and depleted species, productive marine life and rich fishing grounds. Yet not enough is known about the population, distribution, and behavior of many species in Alaska waters to justify the risks associated with OCS leasing, exploration and development. The 5-Year plan is premature given the lack of baseline scientific data, and fails to admit the lack of relevant information.

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be relatively "small" and "localized" given the "modest amount of activity" and the "great extent of habitats." *See, e.g.*, DEIS at IV-16, 126, 131, 139, 140, 146, 151, 159, 162, 163, 165. MMS should define these terms. MMS may not avoid its duty to take a hard look at the environmental impacts by selecting overly large planning and program areas and lease sales.

MMS has substantially expanded the size of both Arctic Ocean program areas compared to the current plan (Beaufort Sea Program Area from about 9.4 million acres to 33,277,697 acres and Chukchi Sea Program Area from about 33.8 million acres to 40,372,210 acres).¹ MMS did not provide any rationale for enlarging the size of these programs nor describe differences in the existing marine natural and human environment or impacts (ice conditions, fish and wildlife habitats, technological difficulties, spill response capabilities, etc). In the Beaufort Sea, much of the additional acreage was substantially farther offshore to the north where one important species, the beluga whale migrates. MMS has added significant offshore acreage in the eastern Beaufort Sea east of Kaktovik which would increase potential effects to the Arctic National Wildlife Refuge coastline from spills. The eastern boundary of the program area involves territory where ownership is disputed with Canada, yet no explanation or impact analysis for this controversial area was provided.

We do not support the increase in number of OCS lease sales in Alaska in this PP. For example, three Chukchi lease sales is an aggressive schedule for this remote area where no leases currently exist. Very little information exists about the natural resources in the Chukchi Sea, especially given rapid climate change, and the schedule of lease sales does not allow for the acquisition and analysis of adequate and relevant scientific information important to any decision to lease particular areas.

The alternatives should include deletion of all Alaska Program areas, entire Alaska Program/Plan areas and also deferrals that are designed to protect important environmental considerations, in furtherance of OCSLA's requirement that the Secretary take those factors into account in designing the PP. As MMS recognizes, the alternatives presented are those with low resource potential and/or areas where leasing has not occurred for 10 or more years and that were also politically controversial. They do not adequately enable the Secretary to consider and include a properly balanced program. DEIS at I-10. In addition, if little industry interest exists in these areas, they should not be included for consideration in the first place, particularly over local Alaska Native opposition. MMS itself has said it is appropriate to remove entire or parts of Planning areas at the Five-Year Plan stage. *See Chukchi Sea Planning Area Oil and Gas Lease Sale 193 and Seismic Surveying Activities in the Chukchi Sea* DEIS at II-3 (responding that a deferral of the Chukchi Sea and parts of the Beaufort Sea is "appropriately addressed at the 5-Year Program stage.")

MMS has poorly constructed its range of alternatives and therefore we cannot support any of your alternatives because none of them adequately protect Alaska's

¹ Acreages for existing Program/Planning Area calculated by ACE Conservation GIS Center, Anchorage Alaska; Figures for new plan pers.comm Tina Huffaker, MMS Alaska OCS Region, November 6, 2006.

marine and coastal environment. Furthermore, there is not a reasonable range of alternatives regarding seismic exploration activities in Alaska.

We support the deletions of the North Aleutian Basin (NAB) from the Proposed Program as contained in Alternative 2, and this area should be removed from both the plan and program areas. MMS does not have the authority to include the NAB in the PP since this area is subject to a presidential moratorium. MMS does not adequately explain why the agency is dedicating resources to analyzing lease sales in an area that is off-limits.

Alternative 7 is insufficient to protect the NAB's resources. Bristol Bay provides habitat for many depleted species, including the endangered Steller sea lion, threatened northern sea otters, and the critically endangered North Pacific right whale, of which there may be only 100 left. We oppose opening Bristol Bay to oil and gas leasing because it poses unacceptable risks to the world's largest sockeye salmon run, over 450 species of fish and invertebrates, and critical habitat for the endangered Pacific Right Whale. Among these many species are the fish that comprise the backbone of commercial, sports, and subsistence fishing in Alaska. Groundfish, halibut, salmon, herring, red king crab, and tanner crab fisheries of the region are Alaska's most important renewable resources. Furthermore, anadromous salmon migrate to other regions of the state supporting their economies. It also risks oil spills to the Izembek National Wildlife Refuge coast.

We support the deletions of Cook Inlet and Shelikof Strait from the PP as contained in Alternative 3. The proposed Cook Inlet lease sales pose oil spill and other risks to rich fisheries, declining populations of sea otters, a depleted population of beluga whales, and critical habitat for endangered Steller's sea lions, as well as the coastlines of Chugach National Forest, Lake Clark and Katmai National Park and Preserves, and the Becharoff, Alaska Peninsula, Kenai, Kodiak and Alaska Maritime National Wildlife Refuges, many of which were oiled by the Exxon Valdez. Additionally, Shelikof Strait is an area of major importance to the State's economy from fisheries and the marine ecosystem. Also, the region's earthquake-prone nature and harsh operating conditions including extreme winds and tides make the likelihood of spills higher in this region than other OCS areas. MMS has predicted a high spill risk from offshore development in this region, and in past lease sales industry has shown little or no interest in the area, thereby justifying the exclusion of this planning area.

We support the 25-mile deletions proposed in the Chukchi polynya in the Chukchi Sea Planning Area in Alternative 5 and the PP, but this action is not adequate to protect sensitive coastal resources. Noise disturbance, oils and other industrial activities threatens critical spring and fall migration routes for bowhead and beluga whales; feeding areas for gray whales, Pacific walrus and polar bears; migratory bird habitat including feeding area used by for seabirds nesting in cliffs of the Alaska Maritime National Wildlife Refuge and spectacled eider critical habitat; important subsistence resources and Cape Krusenstern National Preserve.

Too little is known about the resources of the Chukchi Sea, and adequate baseline studies are necessary before the Secretary can legitimately consider whether oil exploration and development is appropriate there. In addition, we are concerned about the impacts, especially to caribou and subsistence activities, from a new overland pipe for the transport of oil from the Chukchi Sea. The expansion of activity into these important and pristine areas justifies a deferral of the Chukchi Sea Area. Furthermore, the issue of whether tankers might be used instead was not evaluated.

The presentation of the Chukchi Sea program area is confusing with respect to the 25-mile buffer. For example, it is not clear whether leasing could be offered in that area under any circumstances, and whether seismic exploration would be permitted there. The PP states, “the inclusion of a 25-mile buffer . . . reflects the Secretary’s intention that there be no leasing within 25-miles of the coastline where there is no oil and gas leasing activity unless the adjacent state(s) request the area be offered.” PP at 7. The PP differs from what was analyzed in the DEIS. *See* Figs. II-3 and II-7 Alt. 5 “25-mile deferral.” Any such buffer zone areas should be removed from the Program Area to simplify public understanding of the alternative which MMS characterizes as reducing impact. Furthermore, the proposed boundaries for Chukchi Sea Lease Sale 193 that would be carried out under the 2007-2012 program are still different and it is unclear if these would be modified under the PP.

We are disappointed that the DEIS does not consider any alternative that would limit leasing in the Beaufort Sea. There should be no new lease sales in the Beaufort Sea. MMS should present an alternative that defers leasing off the coast of the Arctic National Wildlife Refuge and other sensitive coastal areas. Oil development there poses risks to the Porcupine caribou herd, fish, polar bears, other marine mammals, and migratory birds using the Refuge coastline, lagoons, and barrier islands. Offshore exploration and development would cause pollution, aircraft and vessel noise and related industrial activity, and the sale of leases off shore the Refuge increases the pressure to construct sprawling onshore airports, pipelines, roads, docks, and other support facilities in the Refuge.

MMS should present an alternative that defers leasing off-shore the Teshekpuk Lake area of the National Petroleum Reserve-Alaska. This area is important to many species of birds and to the Teshekpuk Lake caribou Herd. In addition, MMS should not lease the waters adjacent to Dease Inlet and Peard Bay. These areas are sensitive to aircraft and other disturbances caused by industrial activities and infrastructure, as well as oil spills. Finally, MMS should include an alternative that defers subsistence whaling areas and other areas important to species listed under the MMPA and ESA.

The overall effect of failing to include a reasonable range of alternatives is both substantive and procedural. Substantively, MMS has pre-determined the outcome of the PP - Alaska’s offshore will be developed. Procedurally, the DEIS does not provide the public or decision-maker with the opportunity to evaluate the tradeoffs between OCS development scenarios in differing regions. These errors are egregious and render the DEIS virtually meaningless.

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2. The Information Discussing Oil Spills is Inadequate

The DEIS is inconsistent in its discussion of the impacts from oil spills. The agency notes that 4 large oil spills are expected from the proposed action. *See* Table IV-4. Yet, the DEIS often states that the potential for a large spill is unlikely. *See, e.g.*, DEIS II-7. For example, MMS states that large oil spills “could potentially affect shoreline habitats and valued biological communities” in the National Wildlife Refuges, but that this is “unlikely.” DEIS at IV-215. MMS also fails to compare spill risks and impacts between a range of alternatives.

In addition, the DEIS asserts that the number of spills is “small” and concludes that population effects would therefore be unlikely. *See, e.g.*, DEIS at IV-128 (“Because of the small number and size of potential spills that could occur under the proposed action (most spills less than 50bbl), exposure [of marine mammals in the Bering Sea] to spilled oil would be temporary and likely affect only a few individuals.”); DEIS at IV-123 (“With only two large oil spills assumed to occur in the Arctic Subregion . . . it is unlikely that population-level impacts would occur”); *see also* DEIS at IV-135, 161. Similarly, MMS refers to these spills as an “infrequent disturbance” not expected to result in significant population losses” (of marine and coastal birds). DEIS at IV-143.

These conclusions are misleading since MMS predicts one spill in each Alaska planning area and because one large spill can have population-level effects. *See* DEIS at VI-130, 135-136; *see also* DEIS at IV-416 (projecting that a single spill could kill more than ten thousand birds, and stating that “recovery. . . is not expected for species whose populations are already exhibiting a declining trend”).

MMS often avoids a direct discussion of impacts that would result from a large oil spill by saying that the effects would simply be “greater” or “longer term” than those that would result from small spills. *See, e.g.*, DEIS at IV-108. MMS should describe the impacts from a large spill specifically, rather than comparatively to small spills.

MMS is also inconsistent in describing the effects of oil spilled on ice and snow. MMS recognizes that “a hydrocarbon plume in the water column underneath the ice could persist with concentrations that exceed ambient standards and background levels.” DIES at IV-107. “Oil would not be easily dispersed, and weathering could be slower than in the open sea. . . and much slower than in warmer climates. . . If the spill were to occur on ice, oil would be trapped and remain unchanged until breakup occurred.” *Id.* MMS notes that cleanup would be hindered by several factors. However, MMS also states that “oil spilled on ice or snow in winter would likely be easily cleaned up with little oil remaining.” DEIS at IV-192.

We question the results of your models which predict that “only up to 2 percent of the Beaufort Sea bowhead whale population would be affected by a large oil spill.” DEIS at IV-120. This is a misleading representation of the work that is cited in support of this statement. In fact, the cited Biological Opinion expresses little certainty about the

potential effects of a large oil spill in bowhead habitat. NMFS concluded there was a 40% probability of 1-200 whales encountering oil if a spill occurred, and then notes that "if oil found its way into leads or ice-free areas frequented by migrating bowheads, a significant proportion of the population could be affected." Endangered Species Act - Section 7 Consultation Biological Opinion on the construction and operation of the Liberty Oil Production Island at 27. NMFS concludes with the following:

"There is still considerable disagreement as to the probable effects of oil on bowhead whales in the Alaskan Beaufort Sea. This conclusion probably reflects the transitory nature of these animals in the region, as well as a lack of studies. Data on the anatomy and migratory behavior of bowhead whales suggest that a large oil spill is likely to adversely affect bowhead whales, especially if substantial amounts of oil were in the lead system during the spring migration. Exposure of bowheads to an oil spill could result in lethal effects to an unknown number of individuals."

Id. at 29. This is a very different conclusion than the simplistic and misleading "only up to 2 percent" presented in the DEIS.

Many conclusions are unsupported. For example, MMS recognizes that oil spills can cause pollution that persists for 10 years or more, but somehow concludes that "no impacts to the overall condition of coastal habitats in the Arctic Subregion are expected to occur." DEIS at IV-193. In the analysis of Cook Inlet, MMS admits that a large spill will likely contact the coast, but the agency then concludes that "no widespread impacts" would occur. DEIS at IV-202.

MMS states that "Because most spills under the proposed action would be expected to occur in deep waters, exposure may be limited to marine birds foraging in the vicinity of the accidental release." DEIS at IV-416. It is unclear why most spills would occur in deep water, and it is unclear why only foraging birds (and not e.g. resting, staging, molting birds) would be affected.

The DEIS also fails to properly analyze the amount and cumulative impact of oil spills. For example, the DEIS states that up to 5 large spills are assumed to occur from OCS activities in the Alaska OCS, but fails to explain how these multiple spills will cumulatively impact resources. In addition, the cumulative impacts of an oil spill are downplayed. MMS has no basis for assuming that two oil spills in the Arctic during the 40 year life of the leasing program would not have population-level impacts, especially considering the quickly changing climate and ice conditions. Furthermore, MMS must discuss the driving forces behind climate change and how this proposed activity would perpetuate stresses on the Arctic region.

MMS states that "An approved oil-spill response plan would be required for all exploration and production activities," DEIS at IV-122, yet there has not been a successful oil spill response drill to date off the Beaufort Sea coast. Therefore, there is no

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evidence that an effective spill response could even occur. A "plan" is not sufficient for mitigating ecosystem or species impacts.

3. The Analysis of the Effects of Global Climate Change is Insufficient

The DEIS recognizes that global climate change is occurring and that a warming climate will have a dramatic effect on the environment. The impacts of global climate change are already being felt in the Arctic region and will continue to have significant effects on the people and resources in Alaska. Initially, MMS correctly relies on reports from the Intergovernmental Panel on Climate Change and National Research Council, and Arctic Climate Impact Assessment.

However, in assessing the likely effects of global warming, the EIS also should consider the following sources: Pew Center on Global Climate Change. *Observed Impacts of Global Climate Change in the U.S.* (Nov. 9, 2004), U.N. Environment Programme, *GEO Year Book 2004/5: An Overview of Our Changing Environment* 42-46, 80-84 (2005), National Academy of Sciences, *Joint science academies' statement: Global response to climate change* (June 7, 2005), The Wildlife Society, *Global Climate Change and Wildlife in North America* (2004), available at http://www.nwf.org/nwfwebadmin/binaryVault/Wildlife_Society_Report2.pdf, and Millennium Ecosystem Assessment, *Millennium Ecosystem Assessment Synthesis Report* 119 (Mar. 23, 2005), available at <http://www.millenniumassessment.org/en/products.aspx> (last visited Nov. 16, 2006).

While the DEIS does acknowledge global climate change and the mechanism by which it is occurring, *see* DEIS at IV-3 to IV-5, the discussion of potential impacts from a warming climate is somewhat haphazard. For certain resources, global climate change is addressed in Chapter 3, as a part of the "Affected Environment." *See, e.g.,* DEIS at III-41 (discussing the rise in sea level due to melting ice), III-96 (discussing affects to water quality from a decrease in sea ice); III-138 to 139 (discussing potential effects on terrestrial mammals from changing habitat due to a warming climate), III-155 (sea ice cover), III-178 to 180 (potential effects to subsistence resources). The DEIS characterizes these as "discussions of the effects of ongoing, observable climate changes for the affected resources." *Id.* at I-5. Climate change is then introduced as a "programmatic concern" in Chapter 4. *See id.* at IV-3 to 12. It is not mentioned again, however, until the DEIS states that, for some resources, it will be addressed in the discussion of cumulative impacts. *See id.* at IV-345, 347 ("Because a growing body of evidence shows that climate change is occurring, we have included it as an impact factor in the cumulative analysis of some resources."). The DEIS addresses climate change as a cumulative effect only for resources that are "already experiencing impacts from climate change" and/or "will be directly affected by warming temperatures." *Id.* at IV-347.

Thus, the EIS appears to address global climate change as part of the environmental baseline for some resources while considering it as a cumulative effect for others. NEPA requires MMS to address the environmental consequences of potential

leasing from a particular baseline set of conditions. If that baseline includes a warming climate, then the DEIS must address global climate change for each resource as part of the description of the affected environment. It should then consider the direct effects of leasing on resources that are changing due to global warming. The DEIS does not do that. Indeed, despite including some discussion of global climate change in Chapter 3, the DEIS does not mention climate change in the discussion of direct effects in Chapter 4 except to say that impacts to air quality may be lower if global warming results in the need for fewer transport vessels. *See id.* at IV-102.

The DEIS should be clear as to whether climate change is a part of the environmental baseline or is being treated solely as a factor in the cumulative effects analysis. Clearly, there is some direct overlap between “the effects of ongoing, observable climate changes for the affected resources” discussed in Chapter 3 and a discussion of resources “already experiencing impacts from climate change” in Chapter 4. Moreover, if the DEIS treats climate change solely as part of the cumulative impacts analysis, it should do so for all resources. Rather than discounting certain potential impacts as “speculative” or “too uncertain to predict,” *id.* at IV-347, the EIS should include discussions of all potential impacts and simply recognize the limitations on the information available.

In several places, the EIS does mention potential effects of climate change on particular resources in the discussion of cumulative impacts. For the most part, however, these discussions are cursory and contain little or no analysis. For example, in the section covering potential cumulative impacts to marine mammals, the DEIS states only that, while climate change is a concern for marine mammals in the Arctic, “[i]t is not possible at this time to identify the likelihood, direction, or magnitude of any changes in the environment of Alaskan waters due to changes in the climate, or how climate change could impact marine mammals in these waters.” DEIS at IV-412. As a result, the DEIS defers consideration of these impacts to “subsequent environmental reviews for lease sales or other OCS-related activities.” *Id.* This is arbitrary since MMS has before stated that impacts from global warming should be considered at the planning stage, and not at the leasing stage. *See Beaufort Sea Multiple Sale EIS for Lease Sales 186, 194 and 202, (February 2003) at VII – 169.*

In fact, there is substantial information available about the potential effects of a warming climate on sea ice and other Arctic resources and how those changes are affecting, and will affect, marine mammals. In particular, there is a body of evidence about the potential effects to polar bears. *See infra* pp. 16-17. However, thorough new analysis is warranted given recent research results such as a new U.S. Geological Survey study which reported decreased cub survival in the Beaufort Sea polar bear populations associated with decline in sea ice (see Anchorage Daily News, November 16, 2006, “Fewer Beaufort polar bear cubs survive”; and <http://alaska.usgs.gov/announcements/news/highlights.php?hmthday=1026&&hyear=2006>, accessed November 20, 2006).

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Similarly, the entire discussion in the DEIS of potential impacts from climate change on terrestrial mammals is one sentence: "Terrestrial mammals may also be adversely affected by climate changes." DEIS at IV-420. There is a significant body of literature discussing potential impacts to terrestrial mammals, including caribou, from climate change. *See, e.g.*, ACIA Report at 69-72, Wildlife Society Report at 16-17. For example, these animals may be adversely affected by "freeze-thaw events," earlier melting of river ice, which impedes migration, and the northward movement of woody vegetation. The DEIS must discuss these effects.

There are also cursory discussions of potential cumulative impacts on water quality, sea birds, coastal habitat, wetlands, and subsistence. *See* DEIS at IV-408, 415, 431-32, 434, 442. None of these sections, however, contains a thorough evaluation of potential impacts to these resources from climate change. The omission of the issue of cumulative impacts of oil and gas development and global warming on subsistence, traditional land use sites, Inupiaq culture, and places listed on the National Register of Historic Places is a major issue of environmental justice. There is no discussion of the information available and, generally, no attempt to analyze the combined effects of climate change and the proposed leasing program. For other resources, the DEIS does not mention potential effects of a warming climate at all.

Ultimately, we commend MMS for recognizing that global climate change is a significant concern. That acknowledgement, however, does not satisfy the agency's obligation. Having recognized climate change, the DEIS must contain a significantly more thorough evaluation of potential impacts to Arctic resources from the proposed leasing program in the context of a warming climate.

4. The DEIS Does Not Adequately Analyze Impacts From Seismic Activities.

Under the proposed action, important habitat for whales, fish, polar bears, other marine mammals, and a variety of bird species will be impacted by seismic activities. It is well documented that these activities can result in severe impacts, ranging from minor disturbance to hearing loss and permanent injury in many species. The DEIS provides minimal analysis of these impacts, and relies in part on the Programmatic Environmental Assessment for Arctic Ocean Outer Continental Shelf Seismic Surveys (MMS, 2006) (Seismic PEA) for additional information. DEIS at IV-116. This minimal analysis does not meet MMS' obligations under NEPA, the OCSLA, the Endangered Species Act (ESA), and other statutes.

A. MMS Cannot Rely On the PEA for Arctic Ocean Outer Continental Shelf Seismic Surveys.

To the extent that the DEIS relies on the Seismic PEA in its assessment of the impacts of seismic activities in Alaska, the analysis is inadequate. As discussed in comments submitted by the Natural Resources Defense Council and others regarding the PEA, the PEA itself was inadequate. Most notably, the PEA ignored important scientific

evidence regarding the degree of impact seismic activities have on wildlife in the Arctic, failed to consider adequate mitigation measures, and failed to give full consideration to cumulative impacts. Thus, it is inappropriate to rely on the PEA. See NRDC, et. al comments on draft PEA.

Furthermore, the PEA's assessment of impacts is limited to a one-year time frame for activities in the Arctic subregion. It does not provide information specific to the other subregions of Alaska subject to the 5 year plan, and it does not provide analysis of the impacts of ongoing activities over a longer time period. The DEIS does not provide sufficiently detailed information to remedy the narrow scope of the analysis. Even if short term displacement as a result of seismic activities occurring over the course of one summer has limited impacts on bowhead whales and other species, the same impacts over the course of five years in a broader habitat range will likely result in more severe consequences.

Moreover, the PEA is an environmental assessment, not an environmental impact statement. MMS has correctly determined that an EIS is required for the five-year plan, and it is inappropriate to rely on an EA to assess the impacts of seismic activities. Cf. 40 C.F.R. § 1502.20 (permitting an agency to tier to a broad EIS in a later EIS or EA for an action within the scope of the broad EIS); *Sierra Club v. Dombeck*, 161 F. Supp.2d 1052, 1072-73 (D. Ariz. 2001) (“The Ninth Circuit only allows tiering to another environmental impact statement,” and not to any other type of document). The EA is limited in scope, and does not provide sufficient information to determine the level of impacts seismic activities will have over a broader area and longer time frame.

To the extent that the PEA provides background information, it is useful, but incomplete. The DEIS provides little additional information and does not provide a sound basis for predicting impacts over the course of the implementation of the five-year plan.

B. The DEIS Provides Insufficient Analysis Of The Impacts From Seismic Activity To Marine Mammals and Other Animals.

The DEIS acknowledges that the impacts to whales and other animals from seismic activities is uncertain. NEPA requires agencies to ensure the “professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements.” 40 C.F.R. § 1502.24. Where information is critical to a decision, agencies are required to obtain the information, unless the cost of obtaining it would be exorbitant. 40 C.F.R. § 1502.22.

The DEIS consistently notes that marine mammals are sensitive to sound and are likely to be impacted by seismic activities. However, the DEIS provides only minimal detail regarding the level at which various species may be impacted, and relies on the PEA for further information. This minimal information is insufficient to provide a basis for determining the level of impact to these animals, and for crafting effective mitigation measures to minimize harm. The problem is exacerbated because the DEIS provides

little information specifying the types of seismic activities likely to occur in any of the areas (although it notes that airgun arrays are the most frequent form of seismic activity), and the noise level associated with those activities.

The DEIS also notes, however, that “[i]t has not been possible to predict the type or magnitude of responses to [seismic] surveys (and other oil and gas activities) nor to evaluate the potential effects on populations.” DEIS at IV-115 (discussing impacts to marine mammals in the Arctic subregion); *see also* DEIS at IV-123 (discussing impacts to marine mammals in the Bering Sea subregion); DEIS at IV-132 (discussing impacts to marine mammals in the South Alaska subregion). Much of MMS’s analysis of the impacts to marine mammals and the effectiveness of any mitigation measures depends on the sensitivity of the impacted species to certain levels of sound, and the zone in which that level of noise is audible. At the recent 2006 NOAA Ocean Open Water Seismic Meeting, the industry acknowledged that sound models used in 2006 drastically underestimated the extent of sound fields. Inaccurate sound modeling increases the chances that marine mammals will be harmed from seismic activities. If information regarding these crucial factors is inaccurate or uncertain, the entire analysis is flawed.

Scientific studies show that whales and fish are extremely sensitive to seismic activities, and that the impacts of those activities may be more severe than anticipated by MMS. *See* NRDC, *et. al* comments on draft PEA at 2-8, 27-31 (giving a detailed discussion of the impacts of seismic activities on various species). The sparse information in the DEIS indicates that MMS anticipates fish, whales, and marine mammals are likely to be impacted at some level by seismic activities. It does not clearly indicate at what level those injuries are likely to occur or establish noise thresholds and the basis for adopting those thresholds. This meager analysis fails to characterize the full effect of seismic surveys and ignores compelling evidence of the severity of those impacts. *See, e.g.,* NRDC, *et. al* comments on draft PEA at 28-29 (discussing literature related to whale strandings). MMS has also ignored a significant body of indigenous ecological knowledge, or traditional knowledge on the effects of noise disturbance on marine mammal and other issues. For example, belugas are known to be very sensitive to noise. *See* Huntington, H.P. and N.I. Myrrin, editors. Traditional Ecological Knowledge of Beluga Whales: An Indigenous Knowledge Pilot Project in the Chukchi and Northern Bering Seas. Final Report September 1996. Inuit Circumpolar Conference. This study notes the importance of complying with ethical principles for conduct of research, including those adopted by the Interagency Arctic Research Policy Committee.

Finally, the DEIS fails to specifically address the number of mammals likely to be impacted from seismic activities. *See, e.g.,* DEIS at IV-115. The Marine Mammal Protection Act includes a “moratorium” on the taking of marine mammals. 16 U.S.C. § 1371(a). The term “take,” includes “harass,” which in turn means “any act of pursuit, torment, or annoyance” which may injure or disturb a marine mammal or marine mammal stock, including by disrupting behavioral patterns such as migration. 16 U.S.C. § 1362(13), (18). The MMPA permits the authorization of incidental harassment of marine mammals, but only for “small numbers of marine mammals of a species or

population stock," and only if such harassment "will have a negligible impact on such species or stock." 16 U.S.C. § 1371(a)(5)(D)(i); 50 C.F.R. § 216.107(b).

Particularly in the cumulative context, impacts from seismic activity could be broad in their effect, such that more than small numbers of the species would alter their behavior patterns or be otherwise harassed. MMS must anticipate the number of marine mammals likely to be impacted to ensure compliance with the MMPA.

C. The DEIS Does Not Adequately Address Mitigation Measures.

To comply with NEPA, the DEIS must include a discussion of mitigation measures. 40 C.F.R. § 1502.14(f). Although it relies on mitigation measures to predict that there will be no long-lasting or population level impacts to marine mammals as a result of seismic activity, it does not specify what those mitigation measures will require. *See, e.g.*, DEIS at IV-122 ("When properly mitigated, such effects would likely be short-term and not result in population-level effects."). The mitigation measures listed in Appendix C do not specifically address seismic impacts. It is impossible to assess the efficacy of any potential mitigation measures without specific information regarding those measures. Furthermore, MMS should specify the minimum required mitigation measures now rather than waiting for some later date to impose those conditions.

Similarly, MMS improperly relies on lease mitigation measure to reach its conclusion that seismic impacts will not result in population level impacts to fish resources in the cumulative case. MMS states that "[i]f sensitive areas and seasons are avoided, as called for in lease stipulations, discernable changes in populations levels of fishery resources in Alaskan waters due to seismic survey would not be expected to occur." DEIS at IV-421. However, seismic activities are permitted before leasing, and leasing stipulations do not protect against seismic impacts. Furthermore, lease stipulations for the proposed Beaufort Sea Sale 202 or Chukchi Sea Sale 193 do not require marine mammal monitoring for development or production stages. *See* Stipulation No.4, Chukchi Sea Planning Area, Oil and Gas Lease Sale 193 and Seismic Surveying Activities in the Chukchi Sea DEIS at II-7.

Further, as discussed above, the DEIS inappropriately relies on the PEA. The noise thresholds adopted in that document did not reflect sound science, and cannot be expected to prevent damage to whales, fish, and other animals. *See* NRDC, *et al.* comments on PEA at 27-31; *see also* PEA at 230 (adopting 180/190 dB isopleths exclusion zone). Seismic surveys can result in serious injuries to marine life; consequently, appropriate efforts must be specified to eliminate the likelihood of those impacts. NRDC *et al.* suggested a number of mitigation measures, including increasing the size of the safety zone, excluding testing within 35 miles of bowhead whales' historical migration corridors, geographic exclusion areas, reducing source levels, horizontal propagation, mitigation research, avoiding redundant surveys, and other measures. *See* NRDC *et al.* comments on draft PEA at 19-26. MMS must specifically consider mitigation measures in the EIS for the five-year plan, and these measures should be among the measures considered. Mitigation measures must be developed even more

cautiously for the five-year plan, as the impacts will be ongoing for several years, rather than limited to a single summer.

D. The DEIS Does Not Adequately Assess Cumulative Impacts From Seismic Activities.

In considering the impacts of a proposed action, an agency must consider the cumulative impacts of the action. 40 C.F.R. § 1502.1; 40 C.F.R. § 1508.7. Cumulative impacts result “from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions,” and “can result from individually minor but collectively significant actions taking place over a period of time.” 40 C.F.R. § 1508.7.

The cumulative impacts analysis notes only that “Potential impacts (primarily short-term behavioral disturbance) to marine mammals could occur in all the planning areas included in the 2007-2012 Program.” DEIS at IV-410. There is no analysis of whether there may be additional seismic activities after those five years, or whether the impact of ongoing seismic activity over a period of years is likely to have a more permanent effect on the behavior of marine mammals. Shell has recently indicated that it is looking into the possibility of doing seismic surveys in the winter as well as the summer. *See Alan Bailey, Shell Plans 4 Beaufort Wells In '07*, Petroleum News, Oct. 29, 2006. The addition of winter seismic activities could also result in more severe impacts to marine mammals. For example, migration patterns of whales could be impacted as seismic activities continue in important habitat areas. *See* DEIS at IV-413 (noting that impacts are greater with repeated disturbance). Furthermore, MMS needs to assess the impacts to the animals from oil and gas and other disturbances in Canada and Russia.

Likewise, the analysis of cumulative impacts of seismic activity to fish resources and essential fish habitat is inadequate. It predicts that effects of seismic activity will be “highly localized and seasonal in nature.” DEIS at IV-421. It does not discuss whether ongoing seismic activities will have more drastic effects on fish populations, particularly given the significant mortality rates of fish eggs and larvae associated with seismic activities. The analysis provided simply repeats the analysis in the rest of the DEIS, but does not extrapolate to determine the effects of ongoing action.

There is no discussion of the cumulative impacts of seismic activities on birds, including threatened spectacled and Steller’s eiders. Given that the cumulative case analysis posits that recovery for bird species “could require multiple generations, and in some cases, such as when a species with a declining population is impacted, recovery may not occur,” it is crucial that MMS consider all foreseeable impacts to birds cumulatively. DEIS at IV-417. The analysis of impacts in the remainder of the document suggests that there may be some impacts to birds as a result of seismic activities. *See* DEIS IV-138 (“Although the potential effect of seismic energy impulses has been studied in long-tailed ducks, the study was not able to determine if molting

long-tailed ducks were affected by seismic activities in the Beaufort Sea."); DEIS at IV-149 (noting that Steller's eiders could be affected by seismic activities).

Likewise, the DEIS indicates that seismic activities will have some impact on polar bears, but does not include polar bears in its discussion of the cumulative impacts of seismic activities. DEIS at IV-116 ("Pregnant females and females with newborn cubs in maternity dens are sensitive to noise and may be disturbed by seismic exploration, and have been reported to abandon den sites when seismic crews are operating nearby (Trasky, 1976; Amstrup, 1993). Such abandonment of a maternity den, even if short-term, could reduce cub survival."). Even if polar bears are less sensitive to noise than some other animals in the range, the indication that female polar bears may abandon den sites as a result of seismic noise could have serious implications for the species over the course of several years.

Finally, the cumulative case does not adequately account for impacts of seismic activities to subsistence resources and activities. As noted in the DEIS, whales and other marine mammals are significant for subsistence purposes, and OCS activities, including seismic activities, could result in "disruption of marine mammal harvests." DEIS at IV-441; *see also* DEIS at IV-221 (noting local residents' serious concerns about noise and subsistence); IV-227 (noting the extreme importance of whales to some populations); Alan Bailey, *Bridging the Eskimo, Oil Culture Gap*, 11 Petroleum News 45, Nov. 5, 2006 (noting that whales have reacted drastically to noise from seismic activities in the past and expressing concern about future activities). The potential for disturbance is greater if seismic and other activities result in displacement of marine mammals over the long-term, or during important seasons. Even a small displacement could result in disruption to the harvest. If such disruption occurs over a period of several years, it could be a significant restriction. Under NEPA, MMS must provide a thorough analysis of this possibility. In addition, such a restriction could trigger requirements under ANILCA. *See Kunaknana v. Clark*, 742 F.2d 1145, 1151 (9th Cir. 1984); 16 U.S.C. § 3120.

5. The Analysis of Impact to Fisheries is Inadequate

The DEIS fails to adequately reflect the importance of fisheries to Alaska and the potential for offshore operations to have widespread and long-term impacts on these fisheries and the communities that depend on them. MMS downplays the potential impact to commercial fisheries from oil and gas development. MMS states that "Because only a very small area of the planning area would be affected, interference with commercial fisheries is also expected to be small." DEIS at IV-241. Subsistence fisheries are an important component of harvests by communities on the Chukchi Sea and Beaufort Sea coasts. Oil and gas activities in Bristol Bay threaten some of the most important fisheries in the nation, including halibut, herring, salmon, crab, pollock, cod and groundfish. In addition, Bristol Bay residents are heavily dependent on the region's marine life for both direct sustenance through subsistence and for sustainable livelihoods through commercial fishing.

The FEIS should include a more comprehensive discussion of the importance and magnitude of the fisheries in Bristol Bay. The port of Dutch Harbor, which lies just outside of the North Aleutian Basin planning area, ranks as the nation's top fishing port in terms of pounds landed. A large percentage of the catch that puts Dutch Harbor at the top of this list comes from the North Aleutian Basin planning area. In 2002 and 2003, the value of commercial fishery landings in Dutch Harbor alone approached \$300 million for these 2 years combined. The EIS should note the importance of Bering Sea groundfish, which contribute more than half of the nation's total domestic catch and is a multi-billion dollar fishery. The EIS should also discuss the importance of the salmon fishery, which is the largest in the world. The EIS should analyze the potential impacts of oil and gas development on the ability to market fish from the region. MMS should also discuss the value of fisheries as renewable resources.

MMS should discuss the importance of commercial, sport, and subsistence fisheries in the summary of findings for the North Aleutian Basin. The value of protecting commercial fisheries should also be recognized under the comparison of impacts for Alternative 2. The EIS should provide specific information on available baseline ecological data for Bristol Bay and the southeast Bering Sea, and examine more comprehensively the potential impacts to these fisheries. For example, in the 1985 Final EIS for the North Aleutian Basin Lease Sale 92, MMS predicted "major" impacts to king crab populations in the region. MMS should explain why this is no longer expected.

MMS incorrectly estimates the costs of oil and gas development to Bristol Bay fisheries. MMS estimates that the costs of OCS operations in the North Aleutian Basin would be around \$13 million. MMS should attempt to quantify other costs, such as the cost to the fishing industry fisheries from impacts such as damage/loss of gear, fisheries closures, loss of access, greater travel distance to fishing grounds. Another potential cost to the fisheries is further restrictions on commercial fishing operations in the region, should oil and gas activities lead to population-level impacts to the Steller sea lion. In addition, the DEIS underestimates the consequences of oil spills to fisheries. The conclusion that "a large spill within the North Aleutian Basin Planning area would likely affect only a small proportion of a given fish population" is arbitrary. DEIS at IV-245.

MMS assumes that all drilling wastes generated during production will be reinjected. However, the DEIS states that "most major production facilities would reinject all muds, cuttings, and production waters." DEIS at II-4. If it is possible that the North Aleutian Basin production facilities might fall outside of the category of "most major" and reinjection would not be required, MMS should analyze the potential impacts from drilling wastes to commercial fisheries. The 1985 Final EIS for North Aleutian Basin Lease Sale 92 did not assume reinjection of development and production discharges.

6. The Analysis of Impacts to Marine Mammals is Inadequate

The DEIS does not adequately discuss impacts to marine mammals from oil and gas activity. MMS relies on stale science and/or irrelevant or inapplicable science. MMS is specifically precluded from using stale science that is sufficiently old to have questionable applicability to the current situation. If there is reason to believe that knowledge about the distribution and abundance of a species is old, then the MMS should conduct new studies.

Bowhead Whale: The Bowhead whale is the most studied of any of the marine wildlife utilizing the proposed Chukchi/Beaufort Sea areas. Yet significant information is absent from the DEIS. Most significant is the lack of knowledge about where bowheads calve. Information suggests that they calve in the Chukchi Sea region and the PP therefore has the potential to cause population effects on the bowhead. MMS should conduct current studies on the calving area of the Bowhead in order to provide professional assessment of impacts to the population.

MMS's use of inapplicable research results in an underestimate of impacts to bowhead whales. For example, MMS states that "Modeling efforts have indicated that only up to 2 percent of the Beaufort Seas bowhead whale population would be affected by a large oil spill." DEIS at IV-120. However, the NMFS 2001b modeling analysis was limited in scope given that it applied only to the current application at Liberty. The proposed leasing areas extend into areas not modeled and are sufficiently large enough to make the NMFS 2001b modeling analysis inappropriate for application or extension to the current leasing program. MMS should use relevant and current modeling analyses to estimate bowhead whale population effects.

The agency's use of the NMFS 2001b report and failure to incorporate industry science seriously undermines their argument that "a significant change in seasonal distribution of the bowhead whale is unlikely." DEIS at IV 123. MMS states that the OCS activities conducted in the Beaufort Sea as a result of Federal lease sales since 1979 have not apparently had adverse effects on the bowhead whale population. Yet, the level of activity since this time period is in no way similar to that which is proposed. The NMFS 2001b study is wholly incapable of providing substantiation to the MMS projection of little to no impact. In fact recent studies by industry demonstrate the opposite. Studies performed by British Petroleum on the Northstar production island have found statistically significant deviation in bowhead migration (Richardson 2006).

MMS claims that "[p]rolonged exposure to freshly spilled oil could kill some whales (including bowheads), but the numbers would be small due to a low chance of such contact." DEIS at IV-121. However, MMS provides no documentation, research or analysis to substantiate this assertion. Rather, MMS provides a secondary claim that seems to disprove the previous statement by stating, "[t]his would most likely occur if oil spilled into a lead that bowhead whales could not escape." DEIS at IV-121. If the spill occurred during a major migration period, in a major lead, and sufficient ice coverage prevented the whales to move to another lead, then one must conclude that there would

be a higher “chance of [oil] contact” and that more than a “small” number of whales could be affected.

MMS also fails to incorporate relevant research, resulting further underestimation of bowhead whale impacts. For example, MMS states, “Under less extreme exposures (lower concentrations or shorter durations), Oil does not appear to readily adhere to or be absorbed through cetacean skin, which, due to a thick fat layer, may provide a barrier to the uptake of oil-related aromatic hydrocarbons through the body surfaces.” DEIS at IV-120. However, a 1994 National Research Center science review found bowhead whales to have “dozens to hundreds of roughened areas . . . of skin surface. . . . The great increase in exposed surface (microrelief) of these roughened areas increases the area to which oil can adhere....it is likely that oil contact would be harmful.” NRC at 102. In addition, the bowhead whale eye area is another area that oil can penetrate bowhead or other whale skin. “The conjunctival sac associated with the eye is . . . extensive. . . . Thus a large surface exists for an irritant (such as spilled oil) to contact sensitive visual structures.” NRC at 102. Given the above potential sources for oil adherence to skin and ability to contaminate past the dermal wall, the bowhead may be impacted to a greater degree than estimated by the MMS.

The North Pacific Right Whale: The remaining members of the North Pacific right whale species utilize the waters of the southeast Bering Sea as their primary summer feeding grounds. In July 2006, the National Marine Fisheries Service designated critical habitat in the Gulf of Alaska and southeast Bering Sea for the whales. The map of the right whale critical habitat that MMS has included in the DEIS is not accurate according to the designation made by NMFS. MMS should correct this mistake in the final EIS. More than half of the right whale critical habitat in the southeast Bering Sea overlaps with the proposed lease sale area. The potential for conflict between offshore oil and gas operations and right whale feeding activities is extremely high. The final EIS should analyze potential impacts to this species in light of the proposed lease sale area overlapping the whale’s only known summertime feeding grounds. Furthermore, because this species is present in the Chukchi Sea area, an analysis of direct, indirect, and cumulative effects in its entire range should be conducted.

Other Whales: A recent study published in Science (Grebmeier, J.M., et al, March 10, 2006) shows that Bering Sea marine life, including whales, are moving in the Chukchi Sea region. Whales that show increased use of the Chukchi include the Humpback and Gray whales. Given that MMS recognizes climate change in its DEIS, establishing current baseline data on wildlife inventory, distribution and abundance is paramount to providing professional and reasonable impact assessments.

Specifically, Humpback whales and Killer whales are not discussed in Arctic region though they have been known to use the Chukchi region historically and their use of the region has increased. Gray whales are also increasing their usage of the Arctic regions. MMS does acknowledge their presence in the region, but fails to assess impacts as those would occur in the Arctic region.

The DEIS discussion of oil spill site occurrence is contradictory in general and in the case of the Fin, Humpback, and Killer whale allows the MMS to underestimate the impact on these whales from oil contamination or spills. For example, MMS states "Since fin and humpback whales remain relatively far offshore from OCS activities, there is low probability that these endangered species would be affected by an oil spill." DEIS at IV-121. This statement contradicts MMS arguments that OCS activity would occur in "deep waters" elsewhere in the DEIS.

Ice Seals: There is a significant lack of information as to the abundance, distribution, foraging and breeding patterns, and other critical species data regarding seals in all Alaska regions in PP. The importance of this information is blatantly underestimated in the DEIS. Seals are wholly dependant upon ice. MMS has chosen to make unsubstantiated assumptions on impacts in the 5-Year Plan DEIS, waiting instead to attempt to come up with this data at a later date for monitoring purposes. However, this is an inadequate approach for a professional assessment. The DEIS should state more clearly how little is known about ice seal distribution, abundance, and general ecology and address potential effects of global warming on this species.

Walrus: The DEIS overstates the current understanding of walrus distribution and abundance, and fails to mention the changing ice dynamics of the Bering Sea and Chukchi Sea in relation to walrus. Walruses will be impacted from reductions in the extent and thickness of sea ice in Arctic and sub-Arctic waters and critical feeding areas are located in the Chukchi Sea. The DEIS should note that one of the largest Pacific walrus haul outs in Alaska occurs at Cape Seniavin, where up to several thousand gather between April and September. In addition, the Round Island walrus sanctuary is just north of the NAB lease area.

Sea Otter: The DEIS does not discuss the effects of changing ice on sea otters. The southwest Alaska stock of the northern sea otter is a candidate species under the Endangered Species Act, and this species inhabits the lease sale area.

Stellar Sea Lions: The DEIS does not provide adequate discussion of Stellar Sea Lion impacts.

7. The Analysis of Impacts to Polar Bears is Inadequate

MMS ignores important aspects of the significant impacts to polar bears from OCS oil and gas activities. MMS anticipates that "much" construction of offshore facilities will take place during winter. DEIS at IV-138. In discussing the potential impacts to marine mammals from construction of offshore facilities, MMS concludes that "winter construction of offshore platforms would be expected to affect relatively few animals," because several species of marine mammal would not be present in the Arctic during the winter. DEIS at IV-117. MMS overlooks the fact that polar bears are present in offshore areas throughout the winter months. Furthermore, MMS ignores the fact that pregnant female polar bears often den on shifting sea-ice. These bears may drift near

offshore operations and construction activities and may abandon the den and young cubs as a result of the disturbance caused by such activities.

Likewise, in analyzing the potential impacts of construction of onshore facilities and pipelines, MMS overlooks an important aspect of polar bears' seasonal distribution. The DEIS notes that foraging bears or females in maternity dens will likely leave or avoid areas surrounding onshore construction, but concludes that this will "only affect a small number" of polar bears and have no population-level effects. The DEIS fails, however, to acknowledge that during the fall freeze-up period hundreds of polar bears have been observed along the coast, creating the potential for onshore activities to impact substantial numbers of bears. *See, e.g., U.S. Fish and Wildlife Service, Environmental Assessment: Final Rule to Authorize the Incidental Take of Small Numbers of Polar Bear (*ursus maritimus*) and Pacific Walrus (*Obodenus rosmarus divergens*) During Oil and Gas Activities in the Beaufort Sea and Adjacent Coastal Alaska,* 54.

In addition, MMS improperly relies on vaguely identified mitigation measures to support its conclusion that activities under the 5 year plan will not significantly affect polar bear populations. MMS observes that noise generated from exploration activities, oil and gas operations and OCS-related vessels and helicopters may disturb individual polar bears, but concludes that if "properly mitigated, such effects would likely be short-term and not result in population-level effects." DEIS at IV-122. The DEIS does not describe how disturbances attributable to industrial noise might be "properly mitigated." MMS similarly depends on "existing permit requirements, regulatory stipulations, and MMS guidelines" to "generally limit the likelihood of marine mammals being affected by these operations." DEIS at IV-122. MMS fails, however, to elucidate what these guidelines, stipulations and permits actually require of oil and gas operations, or how they will effectively avoid, minimize, rectify or reduce impacts to polar bears and other marine mammals. This lack of specificity precludes informed decision making and public participation in violation of NEPA.

Finally, as mentioned above, MMS impermissibly avoids analyzing the cumulative impacts to polar bears from climate change. MMS reasons that "[i]t is not possible at this time to identify the likelihood, direction, or magnitude of any changes in the environment of Alaskan waters due to changes in the climate, or how climate change could impact marine mammals in these waters," DEIS at IV-412, and therefore declines to further discuss cumulative impacts to polar bears in the context of a warming climate. This truncated rationale for MMS's failure to substantively discuss impacts to polar bears in the context of a warming Arctic environment ignores the best available science concerning the changes to Arctic sea-ice induced by global warming and the resultant impacts to polar bears.

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In response to a Petition² filed by the Center for Biological Diversity, the U.S. Fish and Wildlife Service has made a finding that listing of polar bears under the Endangered Species Act "may be warranted." 70 Fed. Reg. 6745. Sea-ice provides polar bears' primary habitat, which bears utilize for hunting, feeding, and breeding. (Stirling and Derocher 1993). During the past twenty-five years, perennial sea-ice extent has declined by more than 9% per decade. (Cosimo 2005, at 52). The past two years have seen unprecedented 6% declines in the extent of winter sea-ice. See NASA, "Arctic Sea Ice Hitting Major Lows in Wintertime" (Sept. 13, 2006) at http://www.nasa.gov/vision/earth/environment/seoice_meltdown.html (last visited Nov. 7, 2006). The extent of summer sea-ice in the Beaufort and Chukchi Seas has diminished substantially during the past 25 years. (ACIA 2004a at 25). The duration of annual sea-ice has likewise diminished, as the period of sea-ice melting has increased by an average of 13.1 days per decade in the Arctic. (Cosimo 2005).

Researchers have documented several impacts to polar bears as a result of these changes to the Arctic environment. The earlier break-up of sea ice has shortened the duration of sea-ice feeding by polar bears in Hudson Bay, causing them to abandon sea-ice for terrestrial habitat with reduced fat reserves, and resulting in declining rates of reproduction and subadult survival. (Derocher et al. 2004; Stirling et al. 1999). Similarly, researchers have recently documented declining survival rates for cubs of the year, reduced size of cubs of the year and adult males, and a shrinking population in the Southern Beaufort Sea polar bear population as a result of changes to sea ice. Eric Regher, Steven Amstrup, and Ian Stirling, *Polar Bear Population Status in the Southern Beaufort Sea*, (USGS Nov. 2006) available at <http://pubs.usgs.gov/of/2006/1337>. These documented impacts represent the best available science regarding the impacts of global climate change on polar bears. The DEIS should state clearly that much information on polar bear abundance, distribution, and ecology is outdated or unavailable- particularly in light of changing ice dynamics. In addition, the DEIS should note the recent population decline in the Beaufort population.

The adverse effects of global warming on polar bear populations are already manifest. MMS can no longer avoid analysis of these effects by way of platitudes invoking uncertainty. Pursuant to NEPA, MMS must discuss and analyze the possibility that OCS oil and gas activities will further exacerbate these well-documented, adverse effects suffered by polar bears as a result of global warming.

In order to ensure that the 5-year plan will not inhibit polar bears' ability to attain and maintain optimum populations in violation of the MMPA, MMS must adequately evaluate the impacts. In order to foster informed decision making and public participation as required by NEPA, MMS must thoroughly discuss these impacts to polar

² We hereby incorporate by reference the Petition and those items submitted by the Center for Biological Diversity supporting the Petition into this letter and formally request that all documents related to the ESA rulemaking be considered by MMS in developing its final five-year program for OCS oil and gas leasing, and also be included in this administrative record. The short form citations that follow reference authorities cited in the Petition.

bears and must prescribe specific, effective mitigation measures that avoid or minimize adverse impacts.

8. The Analysis of Impacts to Birds is Inadequate

A. Marine and Coastal Birds

The DEIS fails to adequately discuss the importance of the lease sale areas to marine and coastal birds and does not sufficiently present the potential impacts to birds from oil and gas activity. MMS dramatically understates the potential for serious impacts on globally important bird populations in the proposed program areas.

In the NAB, hundreds of thousands of seaducks, including eiders, long-tailed ducks, and black scoters migrate along the coast, and large numbers also molt, feed, and over-winter in the area during late summer through fall. Virtually the entire world population of emperor geese stages in estuaries along the north shore of the Alaska Peninsula, where abundant food resources provide essential nutrients for spring and fall migration, and an increasing numbers of geese over-winter in the Bristol Bay area. The 5,000 – 9,000 remaining Western High Arctic Brant, one of the rarest goose stocks in the world, use the northwest edge of Moffet Bay within Izembek Lagoon. Freshwater habitats such as the Ugashik, Egegik, Naknek, and Kvichak rivers near the coastline provide spring and fall feeding habitat for tens of thousands of migrating waterfowl which spill over into the Izembek NWR and Izembek State Game Refuge. The DEIS should acknowledge the importance of leasing areas to these birds.

In addition, undisturbed habitats along the Bristol Bay coast are important to declining loon populations, sandhill cranes, Alaska's tundra swan population. The DEIS should acknowledge that the Yellow-billed Loon is the subject of a listing petition filed under the ESA, and should discuss the potential impacts to this species.

Thirty seabird colonies are in or immediately adjacent to the proposed NAB lease sale area. These colonies provide breeding habitat for over 60,000 seabirds, including kittiwakes, gulls, murres, and cormorants, and should be specifically addressed in the DEIS. The DEIS should also note the massive piscivorous and planktivorous seabird concentrations offshore of Pt. Hope in summer. In general, seabird information is biased toward colony data, and should include more information on key marine habitats.

In addition, Bristol Bay estuaries provide critical habitat for migrating and wintering shorebirds. Bays support hundreds of thousands of shorebirds, and the estuaries there have been designated sites of "Regional" and "Hemispheric Importance" in the Western Hemisphere Shorebird Reserve, providing the only nesting area for marbled godwits in Alaska. The DEIS should address intertidal feeding areas for nesting shorebirds, and discuss post nesting concentrations in greater detail. See DEIS at III-122.

The DEIS's information on short-tailed albatross is out of date. The connection of the species to the pelagic continental shelf region in the Bering Sea is well documented (Piatt et al. 2006). High concentrations occur in central Bering Sea, putting high proportion of global population at risk from oil and gas activities.

While the DEIS should focus special attention on ESA and MMPA listed species, it fails to adequately address species subject to listing petitions, like the Yellow-Billed Loon, and other species of concern. For example, the DEIS should give particular consideration to the species on the Audubon WatchList. The DEIS should consider impacts to the species, especially if oil and gas activity has the potential to push these species towards threatened or endangered status. The DEIS should also discuss in more detail the Important Bird Area program that provides an objective, data-driven means to identify habitats important to the survival and productivity of bird populations in the PP areas.

B. Steller's and Spectacled Eiders

MMS fails to adequately evaluate the potential adverse impacts that activities occurring under the PP will have on declining populations of threatened spectacled and Steller's eiders.

MMS ignores and arbitrarily downplays potential impacts to Steller's eiders from activities under the 5-year plan. MMS has indicated that Steller's eiders make "considerable" use of coastal marine waters between Wainwright and Dease Inlet as brooding grounds and staging grounds for post-breeding migration. Chukchi Biological Evaluation, 21. This area overlaps the portion of the Beaufort Sea that is slated for future lease sales under the PP. Thus, there is potential for exploration, development and production activities to occur within this area and to disturb Steller's eiders or result in an oil spill that substantially impacts the population.

Additionally, vessel helicopter traffic from Barrow or Wainwright will likely traverse this area of "considerable" use by Steller's eiders and disturb, displace, or even collide with eiders. MMS acknowledges the propriety of evaluating potential impacts to Steller's eiders in these coastal waters. *See* DEIS at IV-143 ("there is some evidence to suggest use of Peard Bay by postbreeding Steller's eiders"). MMS does not, however, provide any substantive discussion of the potential for OCS oil and gas activities to impact seasonally-concentrated Steller's eiders along the coast between Wainwright and Dease Inlet. Pursuant to NEPA, MMS must fully discuss the potential impacts of disturbances to this seasonal concentration of threatened Steller's eiders in order to foster informed decision making and public participation. MMS's failure to analyze these impacts in a Biological Evaluation or similar document violates the ESA.

In addition, MMS downplays potential impacts to Steller's eiders that winter in designated critical habitat on the northern coast of the Alaskan Peninsula, within the North Aleutian Basin Planning Area. MMS identifies Izembek Lagoon as being "among the most important molting areas" for Steller's eiders. DEIS at IV-146. Yet, MMS

ignores potential impacts to Steller's eiders which molt in Izembek Lagoon, located immediately south of the planned sale area in the North Aleutian Basin Planning Area and including designated critical habitat for threatened Steller's eiders. The nearest airport to much of the planned sale area is in Cold Bay, about five miles south of Izembek Lagoon. Helicopters traveling to offshore oil and gas facilities or exploration vessels within the North Aleutian Basin will likely fly out of Cold Bay, and travel directly above Izembek Lagoon. The impacts of such flights must be evaluated pursuant to NEPA and the ESA.

Steller's eiders exhibit strong fidelity to molting sites and wintering habitat. Chukchi Biological Evaluation at 18. MMS has previously determined that "Steller's eiders are vulnerable to perturbations within their winter or molting habitats. If they are disturbed from a preferred wintering area, the area the eiders are displaced to may be of lesser quality due to decreased protection from wind, cold, wave action or provide less opportunity for obtaining high energy prey. ... If displaced from primary molting areas, eiders may experience decreased survivorship." *Id.* MMS, without referring to any factual support for its new position, now arrives at the opposite conclusion: "Disturbed [overwintering] birds would move to other suitable habitat that occur throughout the planning area and would not be expected to be adversely affected." DEIS at IV-146. This arbitrary about-face does not constitute a "full and fair" discussion of environmental impacts and does nothing to prevent adverse effects to threatened Steller's eiders. These deficiencies in MMS's analysis prevent informed public participation and decision making in violation of NEPA. In addition, the deficiencies may improperly lead MMS to authorize activities that may impede the recovery of the threatened Steller's eider population and adversely modify its designated critical habitat.

Spectacled eiders congregate to molt in large flocks along coastal areas during late summer. Ledyard Bay in the Point Lay area, directly in-shore from the proposed Chukchi Sea lease sale, has been designated a "critical habitat area" by the US Fish and Wildlife Service for the protection of the threatened spectacled eider. "Most of the Arctic Coastal Plain breeding population of spectacled eiders likely molts on the 14,000 sq. kilometer (5,400 sq. mi.) Ledyard Bay Critical Habitat Area." US Fish and Wildlife Service, 50 CFR Part 1765(8) pp. 6114-6131. As the eider are found 12-30 miles off-shore, exploration disturbances and a potential spill in the nearby proposed leasing area pose a real threat to this threatened species.

In addition, the cumulative impacts analysis neglects specifically to discuss potential impacts to eiders at all. Rather, it addresses all marine and coastal birds in general terms. MMS observes that new onshore facilities may increase the abundance of predator species, which "could result in population-level effects," to marine birds. DEIS at IV-414. Because the U.S. Fish and Wildlife Service identifies predation as a potential cause of decline for both populations, MMS should address this issue specifically with respect to the eiders. Chukchi Biological Evaluation at 19, 30. To the extent that MMS does indirectly address the possibility of increased predation affecting threatened eider populations, it fails to impose mitigation measures that would avoid, minimize or rectify these effects.

MMS notes that cumulative effects causing direct mortality, reduced reproductive success and habitat loss could generally prevent the recovery of species with declining populations. DEIS at IV-417. Because the threatened populations of both spectacled eiders and Steller's eiders are presently declining, MMS should specifically address whether the cumulative impacts may impede recovery of these threatened populations. *See Chukchi Biological Evaluation* at 20, 28.

In addition, the cumulative impacts section neglects to specifically discuss the potential impacts to threatened spectacled eider and Steller's eider populations from the opening of nearly all of the northern portion of the National Petroleum Reserve - Alaska (Reserve) to oil and gas development. A Biological Assessment prepared in connection with the 2005 Final Amended Integrated Activity Plan for the Northeast Reserve concluded that the amended plan "may affect and is likely to adversely affect the listed spectacled and Steller's eiders" in their nesting grounds and nearshore coastal areas. Bureau of Land Management, Northeast National Petroleum Reserve – Alaska, Final Amended IAP/EIS (January 2005) at D-45; *see also* Bureau of Land Management, Northwest National Petroleum Reserve – Alaska, Final IAP/EIS, Appendix 10, § V.G. (finding that the plan "may have an affect on threatened spectacled and Steller's eiders"). The potential impacts of OCS oil and gas activities must be evaluated in the context of expansive industrial intrusion throughout eiders' nesting habitat in the Reserve. NEPA and the ESA require MMS to evaluate how these threatened eider populations will respond to additional disturbance in coastal areas and nearshore waters, given existing and probable future disturbance throughout their nesting habitat and the potential for these synergistic impacts to jeopardize the populations' recovery.

9. The Proposed Program and EIS Inadequately Address and Protect Important Alaska Native Subsistence and Sociocultural Systems

MMS fail to adequately address the major disruptions of Alaska Native culture and subsistence that will result from every alternative proffered except for the 'no action' alternative. MMS minimizes both the specific impacts to subsistence activities and the cumulative effects of oil and gas development in remote and undeveloped areas with conclusory statements that fail to recognize the magnitude of the impacts and the lack of basic biological knowledge about the ecological systems upon which subsistence resources depend.

To the extent MMS does recognize the threat to important subsistence resources, the agency's conclusions do not rationally follow from these discussions. MMS notes that significant cumulative effects on subsistence resource use are possible and likely. DEIS at IV-442. MMS also states that during the 2007-2012 Leasing Program, the cumulative impact of one or more important subsistence resources becoming unavailable, undesirable for use, or greatly reduced in numbers for a period of 1 or 2 years for one or more Alaska coastal communities is very likely. *Id.* MMS also states that oil-spill events could have moderate to major cumulative effects for this region. *Id.* Because of rapid

and long-term impacts from climate change on long-standing traditional hunting and gathering practices that promote health and cultural identity, MMS reports that subsistence-based communities could experience significant cultural stresses in addition to major impacts on population, employment, and local infrastructure. *Id.* If present rates of climate change continue, MMS states that rapid and long-term impacts on subsistence resources, subsistence-harvest practices, and the traditional diet could be expected. *Id.*

Despite these assertions, MMS then summarily concludes that the possible cumulative effects of OCS activities “could vary greatly but are expected to be small.” DEIS at IV-443. This conclusion simply bears no relation to the analysis and misleads both the public and decision-maker.

MMS also fails to adequately consider the Environmental Justice implications of the PP. This failure is both procedural and substantive, and the foregone conclusion of the program is apparently that Alaska Natives will be living in an ecological sacrifice zone and the best that MMS can do is promise that there will be as yet undefined future consultation and mitigation. Despite these promises (and repeated testimony from communities that consultation and mitigation is not enough), it is clear that while the majority populations of the lower 48 coastal populations can exercise the political power necessary to keep oil and gas development out of their backyard, Alaska Native communities are simply not afforded this level of respect.

MMS aptly characterizes the dilemma, stating that generally “any effect arising from Alaskan OCS activity is liable to have EJ implications.” DEIS at IV-227. Despite this qualifier, however, MMS does little to consider any real alternatives to disproportionately impacting Native communities. For example, aside from the ‘no action’ alternative (which is not being seriously considered for adoption), every possible option available to the decision-maker would open the Chukchi Sea to offshore drilling. Furthermore, MMS is proceeding with Sale 193 which will be part of the new 5-yr plan, giving another indication that the decision to include the Chukchi Sea has already been made. Thus, implicit in the DEIS is that development of the Chukchi is a foregone conclusion. This means that this large Arctic ecosystem, which is currently largely free of onshore and offshore oil and gas infrastructure, and which has no active leases, is pre-determined to be zoned for oil and gas activities. This failure to even consider the exclusion of the Chukchi Sea is indicative of MMS and DOI’s lack of respect for Environmental Justice.

MMS also fails to consider an alternative excluding the entire Alaskan OCS region from development. The rationale for this is that an alternative would not be “reasonable.” DEIS at I-12. MMS explains the result of this in discussing the environmental effects of the proposed program:

Because potential cumulative impacts on marine and terrestrial ecosystems in the [Alaska] region could affect subsistence resources, traditional culture, and community infrastructure, subsistence-based indigenous

communities would be expected to experience disproportionate, highly adverse environmental health effects.

DEIS at IV-444.

MMS failed to adequately consult with federally designated tribes during the scoping process. MMS notes the locations of its scoping meetings(DEIS at I-3), which did not include the Inupiaq communities of Pt. Lay, Wainwright or Pt. Hope along the Chukchi Sea, Atqasuk which depends on fish that migrate in the Beaufort Sea and subsistence from marine mammal and bird harvests, most villages along Bristol Bay, and villages along Cook Inlet. The PP and DEIS were not widely distributed to community members, most of whom do not have high-speed internet access or high volume printing capability.

10. Cumulative Impacts are not Adequately Analyzed in the DEIS

The assessment of cumulative impacts is inadequate. An agency misses the point of a cumulative impacts analysis by emphasizing the incremental increase of activity resulting from the proposed action, rather than analyzing the entire cumulative effects. Here, MMS does just that, incorrectly concluding that for many resources the incremental increase of such activities relative to all the other impacts is "negligible," "short term" or "small." *See, e.g., DEIS at IV- 408, 409, 411, 412, 415, 418, 447, 456, 460.* The purpose of a cumulative impacts analysis, however, is to ensure that the cumulative harm cased by multiple actions is examined. MMS may not avoid analysis of these impacts by referring solely to the incremental effect of the impacts of the proposed action.

Similarly, MMS often concludes that cumulative impacts are unlikely because the total area subject to disturbance is still a small area compared to the entire area that contain potentially affected species. *See, e.g., DEIS at IV-421* (concluding impacts to fish from seismic testing unlikely). However, a comparison of disturbed areas to total area alone is not an adequate cumulative impacts assessment. MMS must actually analyze the impacts, rather than assume they correspond directly to the percentage of total area disturbed and are therefore small.

MMS's discussion of the likelihood of a spill is inconsistent and misleading.. MMS notes that there will be 4 large spills, 14 medium spills, and 120 small spills in the Alaska OCS as a result of leasing under this 5-year Program. *See Table IV-4.* In the cumulative analysis, there will be 5 large oil spills, 19 medium spills, and 170 small spills. *See Table IV-17.* However, in the discussion of the cumulative impacts to birds, MMS claims that "the potential for a large spill is unlikely." IV-415.

MMS notes that there would "be a slightly larger number of oil spills in the Arctic area compared to the predicted number of spills for the proposed 2007-2012 Leasing Program." DIES at IV-405. Does this mean that this action is likely to contribute to most of the cumulative impacts from oil spills? If so, this should be clear. MMS then goes on to say that "the effect of an individual spill would not change; only the probable

number of spills would increase.” *Id.* This is not a cumulative impacts analysis. Such an analysis should describe the potential effects from the increased number of spills.

In addition, the cumulative impacts table for oil spills is confusing. In the table for the proposed action, MMS estimates that there will be one pipeline spill in the arctic region. Table IV-4. However, the table for the cumulative case indicates that there will be no pipeline spills. Table IV-17. Why isn’t the pipeline spill from the proposed action included in the cumulative case?

In general, the cumulative case lacks sufficient detail. For example, MMS discusses the impacts to entire categories of species, and fails to address cumulative impacts specifically to each species, such as Pacific Walrus. *See, e.g., DEIS at IV-410.* The cumulative case also relies too heavily on the individual impact evaluations, failing to address cumulative case specifically. *See id.* (noting that “as discussed in the individual impacts evaluations. . . impacts to marine mammals from OCS-related seismic activity would be short-term and temporary”). MMS states that “a magnitude evaluation of potential cumulative impacts will be appropriately determined in lease-sale-specific environmental impact statements.” DEIS at IV-406. MMS should do a comprehensive cumulative impacts analysis now, as well as at the lease sale stage.

MMS should expand the discussion of the cumulative case to specifically address cumulative impacts that could occur in multiple lease areas that share migratory populations. For example, in the section on marine mammals, MMS does not discuss the potential cumulative impacts to species that migrate between Alaska planning areas. *See DEIS at IV-413.* Some species of concern include beluga whales, bowhead and North Pacific Right Whales and other endangered whales, polar bears, and many migratory bird species. Nor does MMS discuss the cumulative impacts to the threatened Steller’s eider, which is present in the Bering Sea during the winter and the Chukchi and Beaufort Sea during the summer. MMS assumes that eiders disturbed by activity “would move to other suitable habitat,” *see DEIS at 146*, despite earlier recognizing that the greatest concern for birds was secondary habitat change from oil and gas development. *See DEIS at IV-137.*

With respect to the Cook Inlet beluga whale, a federally-recognized “depleted” species under the Marine Mammal Protection Act, OCS drilling adds to impacts on the whales from ongoing Cook Inlet projects (e.g., primary treatment of Anchorage sewage, permitted toxic discharges from Cook Inlet’s existing offshore platforms, Cook Inlet shipping and port operations) and potential, reasonably likely projects (e.g., the Knik Arm Bridge, coastal development).. The DEIS needs to examine the cumulative impact of OCS drilling on the Cook Inlet whale, bearing in mind ongoing and potential projects that may be affecting the whale.

When MMS does recognize potential impacts from an accidental spill, it fails to adequately describe them, stating instead that the details would depend on the specifics of the spill. *See, e.g., DEIS at IV-412* (discuss cumulative impacts from spills to marine mammals). While it may be impossible to predict the exact location of an oil spill, this

does not relieve MMS of the duty to describe the likely cumulative effects of an oil spill. Similarly, for fish, MMS states that a large oil spill in shallow water has “the potential to be of greatest significance to fish communities,” but MMS does not describe or characterize these impacts. DEIS at IV-425.

Finally, MMS does not adequately discuss the other activities occurring in the Alaska OCS area. Merely listing the number or type of developments is insufficient. MMS should provide a comprehensive analysis of the cumulative impacts occurring in the Alaska Arctic. For example, MMS should include a discussion of the potential cumulative impacts resulting from Shell’s plans to drill four exploratory wells in the Beaufort Sea in 2007.

11. The DEIS Should Contain More Information on the Threats from Invasive Species

The DEIS should give fuller consideration to the likelihood of oil and gas structures and associated exploration, production, and transport facilities and activities as accidental or unanticipated conduits for invasive alien species in the marine, coastal, and estuarine/wetland environments. The DEIS should address this potential threat in the impacts to the environment section, and should provide more detail in the assessment of programmatic concerns section.

For example, the DEIS should analyze the potential impacts of ballast water as a likely conduit for invasive species. Although this issue is managed by the U.S. Coast Guard, MMS should examine the potential impacts from accidental introductions of invasive species from oil and gas activities in Alaska. The DEIS should also address the threat of invasive rats, which are now on 80% of islands worldwide and are implicated in about half of global bird and reptile extinctions.

12. The Endangered Species Act

Under the Endangered Species Act, MMS must ensure that its actions are not likely to jeopardize any threatened or endangered species. 16 U.S.C. § 1536(a)(2). Formal consultation with NMFS or USFWS is mandatory before taking any action that may result in jeopardy to such a species, or in the adverse modification of critical habitat. *Id.* Several endangered species have been identified in the Alaska region, including spectacled and Steller’s eiders, short-tailed albatross, bowhead whales, humpback whales, fin whales, killer whales, Northern right whales, sei whales, Blue whales, and Sperm whales.

The DEIS admits that many of these species may be affected by activities pursuant to the 5-year plan. Nonetheless, MMS asserts that “[p]reparing the proposed 5-year program does not fit the definition of a Federal action, and ESA Section 7 consultation (whether informal or formal) at the 5-year program level is premature.” DEIS at I-8.

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The preparation of a 5-year plan, however, is a federal action under the ESA, and MMS should initiate consultation now to ensure that none of these species are adversely affected. Federal actions are broadly defined under the ESA, and include “programmatic documents that set out guidelines for resource management.” *Pacific Rivers Council v. Thomas*, 30 F.3d 1050, 1051 (9th Cir. 1994) (requiring consultation for a forest plan). Programs authorized by a Federal agency upon the high seas—such as MMS’s five-year program for OCS leasing—fall within the ambit of “action” as used in Section 7. See 50 C.F.R. § 402.02. The 5-year plan authorizes MMS to permit leasing in certain areas, and sets out guidelines for management of oil and gas resources as well as for the wildlife resources in those areas. As such, it is a federal action for purposes of the ESA, and MMS must initiate consultation for all listed species in the planning areas before implementing the plan.

For example, MMS must consult on the potential impact to Steller’s and spectacled eiders. MMS anticipates that spectacled eiders and Steller’s eiders may be disturbed by OCS-related helicopter traffic, may die because of collisions with offshore structures, and may perish as a result of contacting spilled oil. MMS recently prepared a Biological Evaluation which concluded that these same impacts “*are likely to adversely affect*” Steller’s and spectacled eiders and “*are likely to adversely modify*” spectacled eiders’ critical habitat in the Chukchi Sea. MMS, Biological Evaluation of Spectacled Eider (*Somateria fischeri*), Steller’s Eider (*Polysticta stelleri*), and Kittlitz’s Murrelet (*Brachyramphus brevirostris*) for Chukchi Lease Sale 193 (September 2006) (Chukchi Biological Evaluation), at 63-64 (emphasis added).

In addition, the Chukchi Sea planning area overlaps with a portion of the designated critical habitat of spectacled eiders which runs from Cape Lisburne to Icy Cape and encompasses Ledyard Bay. The PP does not explicitly prohibit exploration, development or production activities within this designated critical habitat.

Conclusion

MMS’ Outer Continental Shelf Oil and Gas Leasing Program for 2007-2012 is a short-sighted program that sacrifices the long-term integrity of our Arctic environment and the communities that are intertwined with its ecological health. We recommend that MMS go back to the drawing board and consider alternative programs that adequately address the impacts to endangered species, sensitive habitats, cumulative stressors upon the region, and the need to protect a region disproportionately impacted by both fossil fuel driven climate change and the impacts of aggressive oil and gas development. MMS has failed both to develop a program that adequately balances the costs and benefits of development in Alaska’s offshore regions and to adequately analyze the alternatives to and impacts of a program that will result in irreparable harm to the human environment in Alaska. Therefore, both a new Proposed Program and Draft Environmental Impact Statement are required.

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Sincerely,

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